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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,486	04/25/2001	Yasuo Iwasa	Q63961	4521
65565	7590	07/28/2009	EXAMINER	
SUGHRUE-265550			VO, HAI	
2100 PENNSYLVANIA AVE. NW			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037-3213			1794	
			MAIL DATE	DELIVERY MODE
			07/28/2009	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YASUO IWASA and SHIGEKAZU OI

Appeal 2008-1008
Application 09/841,486
Technology Center 1700

Decided¹: July 28, 2009

Before CHUNG K. PAK, JEFFERY T. SMITH, and MARK NAGUMO,
Administrative Patent Judges.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 through 6, 8 through 11, and 13 through 19. We have jurisdiction under 35 U.S.C. § 6(b).²

We REVERSE.

STATEMENT OF THE CASE

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

² An oral hearing was held on July 7, 2009.

The subject matter on appeal is directed to a porous resin film having excellent aqueous liquid or ink absorptivity and to a recording medium comprising the porous resin film, particularly an ink jet recording medium (Spec. 1, ll. 4-7). Details of the appealed subject matter are recited in representative claim 1 reproduced below:

1. A self-supporting stretched porous resin film which is obtained from a compound prepared by kneading a composition consisting essentially of 30 to 100% by weight of a thermoplastic resin comprising 5 to 100 parts by weight of a hydrophilic thermoplastic resin per 100 parts by weight of a non-hydrophilic thermoplastic resin and 0 to 70% by weight of at least one of an inorganic fine powder and an organic fine powder in an intermeshing twin-screw extruder at a screw shear rate of 300 sec⁻¹ or higher and which has a liquid absorbing capacity of 0.5 ml/m² or more as measured in accordance with the method specified in Japan TAPPI Standard No. 51-87.

The Examiner relied upon the following prior art references as evidence of unpatentability (Ans. 3):

Arai	WO 99/46117	Sept. 16, 1999 ³
Fujita	JP 07-195827	Aug. 1, 1995 ⁴

The Examiner rejected the claims on appeal as follows:

- 1) Claims 1 through 6, 8 through 10, and 13 through 19 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Arai; and
- 2) Claim 11 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Arai and Fujita.

³ The Examiner relies on U.S. Patent 6,632,487 issued to Arai et al (Arai) on Oct. 14, 2003 as the corresponding English translation of WO 99/46117.

⁴ Our reference to this Japanese Patent is to the corresponding English translation, including the English Abstract, of record.

Appellants traverse the Examiner's rejections, arguing, *inter alia*, that Arai and/or Fujita do not teach or suggest a porous resin film which is self-supporting and stretched (App. Br. 10 and Reply Br. 5-11). The Examiner takes the position that Arai's porous film is capable of "self-supporting" (Ans. 7). The Examiner also takes the position that that term "stretched" is a process limitation which does not add any patentable weight to the instant product claims (Ans. 8). The Examiner, relying on *In re Spada*, 911 F.2d 705 (Fed. Cir. 1990), concludes that Arai's porous resin film corresponds to the self-supporting stretched porous resin film recited in claim 1 (Ans. 3-6).

ISSUE AND CONCLUSION

Have Appellants identified reversible error in the Examiner's conclusion that the self-supporting stretched porous resin film recited in claim 1 and Arai's porous resin film are identical or substantially identical within the meaning of 35 U.S.C. § 102(b) or 103(a)? On this record, we answer this question in the affirmative.

RELEVANT FINDINGS OF FACT

1. The Specification describes "stretching" used to form the claimed self-supporting stretched porous film as follows (pp. 25-26)(emphasis added):

Stretching can be carried out by *various known methods*, such as longitudinal stretching making use of peripheral speed difference among stretching rolls, lateral stretching using an oven tenter, inflation of a tubular film by use of a mandrel, and simultaneous biaxial stretching by a combination of an oven tenter and a linear motor. The stretching temperature for non-crystalline resins is set above the glass transition temperature of

the thermoplastic resin used, and that for crystalline resins is set between the glass transition temperature of the non-crystalline portion and the melting point of the crystalline portion. The stretching ratio is appropriately decided according to the end use of the porous resin film or the laminate thereof, the characteristics of the thermoplastic resins used, and the like. In case of using, for instance, a propylene homo- or copolymer as a non-hydrophilic thermoplastic resin, a suitable stretching ratio in uniaxial stretching is about 1.2 to 12, preferably 2 to 10, and that in biaxial stretching is about 1.5 to 60, preferably 10 to 50, in terms of area ratio. In using other thermoplastic resins, a suitable stretching ratio in uniaxial stretching is 1.2 to 10, preferably 2 to 7, and that in biaxial stretching is 1.5 to 20, preferably 4 to 12, in terms of area ratio.

2. According to page 25, lines 18-21, of the Specification, stretching increases the number of pores in a porous resin film.
3. The Examiner has not disputed Appellants' assertion that it is art-recognized that stretching of a resin layer leads to an orientation in the stretched direction of a resin molecule in the layer and this is accompanied by a structural change. By such structure, the strength of the resin layer (stiffness, tensile strength, tear strength) of the stretched resin layer increases, compared with that of a non-stretched resin layer. [Footnote omitted.] (*Compare* Reply Br. 10 with Ans. 3-8).
4. Arai teaches a porous and continuous resin layer comprising particles of the powdery coating composition and inorganic fine particles provided on a substrate which is useful as an image-receiving sheet for an ink-jet recording (col. 2, ll. 33-42, col. 1, ll.60-67 and abstract).
5. Arai teaches that the powdery coating composition can be 5 to 50% by weight of a hydrophilic resin based on the total amount of the hydrophilic and hydrophobic resins (col. 7, ll. 22-29).

6. Arai exemplifies melt-kneading, cooling and grinding a mixture of 100 parts of a hydrophobic polymer and 30 parts of a hydrophilic polymer to obtain a white powdery coating composition, mixing the white powdery coating composition with 5 parts of hydrophilic inorganic particles, dry coating the resulting powdery mixture on a substrate by an electrostatic spray method, melting the dry coating by heating, and fixing the melted coating to the substrate to form an image-receiving layer having a thickness of 20 microns (col. 24, ll. 15- 42, Example 10; see also col. 9, ll. 40-63 and column 23, ll. 25-30 relied upon by the Examiner).

7. Arai does not teach stretching its porous and continuous resin layer (*see generally* Arai).

8. The Examiner also acknowledges that Arai does not disclose that its porous resin layer has the claimed liquid absorbing capacity (Ans. 4).

9, The Examiner relies on the disclosure of Fujita for teaching “a recording sheet used in printing made from an alkylene oxide polymer which is a reaction product of an alkylene oxide compound and a dicarboxylic acid compound” (Ans. 6).

PRINCIPLES OF LAW

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.” *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985). “If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *Thorpe*, 777 F.2d at 697. However, any structure or property implied by process steps must be considered when assessing the patentability of a product-by-process claim over the prior art. *See In re*

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Garnero, 412 F.2d 276, 279 (CCPA 1979)(holding the claimed process limitation “interbonded one to another by interfusion between the surfaces of perlite particles” in a product-by-process claim to limit the structure of the claimed composite just as process limitations, such as “intermixed,” “ground in place,” “press fitted,” “etched,” and “welded” were held to be capable of being construed as a structural limitation.) The Examiner must supply a “sound basis for believing that the products of the applicant and the prior art are the same” before “the burden of showing that they are not” is shifted to the applicant. *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990)

ANALYSIS

According to the Specification, the recited process limitation “stretched” limits the structure and property of the claimed porous resin film as it increases the number of pores in the claimed porous resin layer. Stretching a resin film is also known to lead to an orientation in the stretched direction of a resin molecule in the film, which, in turn, is known to contribute to changes such as in the strength of the resin layer (stiffness, tensile strength, and/or tear strength). The stretching technique employed, according to the Specification, can be conventional stretching techniques for polymeric films, which are known to affect a molecular orientation.

Arai, however, does not teach or suggest stretching its porous resin layer. Nor has the Examiner supplied any factual basis from which one of ordinary skill in the art would have reasonably expected Arai’s porous resin layer to possess the same or substantially the same structural and/or property limitation implied by the limitation “stretched” recited in claim 1. The Examiner simply dismisses the limitation in question as having no meaning in assessing the patentability of product claim 1. Thus, on this record, it

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cannot be said that the Examiner has supplied a sound basis for believing the claimed self-supporting stretched porous resin film and Arai's porous resin film are identical or substantially identical within the meaning of 35 U.S.C. § 102(b) or § 103(a).

As to the § 103(a) rejection of dependent claim 11, the Examiner does not rely on the disclosure of Fujita to remedy the above deficiency of Arai. Thus, for the same reasons set forth above, we determine that the Examiner has not established a *prima facie* case of obviousness regarding the subject matter of claim 11 within the meaning of 35 U.S.C. § 103(a).

Accordingly, we are constrained to reverse the Examiner's §§ 102(b) and 103(a) rejections.

DECISION

In view of the foregoing, the decision of the Examiner is reversed.

REVERSED

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